

AMENDMENT UNDER 37 C.F.R. §1.116
U.S. Application No. 09/672,776

Attorney Docket Q61045

REMARKS

Upon entry of the amendment, claims 6 and 8-9 will be all the claims pending in the application. Claim 6 has been amended to recite that the metal of the metal film is tungsten, aluminum, copper or an alloy thereof, and claim 7 has been canceled.

Applicant respectfully submits that with the entry of the proposed amendments, the present application will be in condition for allowance. Accordingly, entry of the above amendments is respectfully requested.

Initially, Applicant thanks the Examiner for acknowledging Applicant's claim to priority under 35 U.S.C. §119, and for confirming receipt of the priority document in parent application no. 09/313,356. In addition, Applicant thanks the Examiner for acknowledging Applicant's claim to domestic priority under 35 U.S.C. §119 and under §120/121.

I. Response to rejection of Claims 6-9 under 35 U.S.C. § 103(a)

On pages 2-3 of the Office Action, claims 6-9 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kasai et al in view of Garg et al.

Applicant respectfully responds as follows.

The Examiner asserts that the Declaration does not show the unexpected superiority of the present invention for all claimed materials, for example, titanium, tantalum and alloys (recited in claim 7).

It is respectfully submitted that non-obviousness of a claim can be supported by evidence based on unexpected results from testing a species if one of ordinary skill in the art would be able to determine a trend in the exemplified data that would allow the artisan to reasonably extend the probative value thereof. MPEP §716.02(d). Therefore,

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Applicant submits that Applicant has provided evidence of unexpectedly superior results for tungsten, copper and aluminum, and based on that data, because one of ordinary skill in the art would be able to determine a trend that would allow one of ordinary skill in the art to reasonably extend the probative value of the data. However, in order to advance prosecution, Applicant has amended claim 6 to recite that the metal of the metal film is selected from tungsten, aluminum, copper or an alloy thereof. Such amendment is not an admission of the propriety of the rejection.

In addition, the Examiner asserts that comparative examples 3 and 5 provide better results than some of Applicant's examples, and therefore Applicant's arguments are not persuasive.

It is respectfully submitted that the present invention does provide unexpected results. It appears that the Examiner is arguing that comparative examples 3 and 5 results in a lower number of scratches than some of the compositions of the present invention. The comparison of only the scratches is not appropriate because the superior results of the present invention resides in a combination of excellent polishing rate, selection ratio and number of scratches. As can be seen in Table 3, comparative examples 3 and 5 exhibit selection ratios of 120 and 150, respectively. Such selection ratios are low, and are lower than the selection ratio exhibited by the compositions of the present invention, which have selection ratios of 190 (Example 6) or higher. In addition, the superiority of the present invention is clear and significant from the Examples when the selection ratio (450-600) of Examples 1-4 is compared to Comparative Examples 3 and 5, which use the same accelerator and metal.

Therefore, contrary to the Examiner's position, the Declaration does show that

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the present invention provides superior results compared to compositions with specific surface areas outside the claimed range.

As repeatedly noted, when the surface area of the alumina is less than 30 m²/g or more than 80 m²/g, or when the α -conversion is less than 65% or more than 90%, an increase in scratches, reduction in selection ratio and/or reduction in polishing rate were observed.

Further, it is respectfully submitted that one of ordinary skill in the art would not combine Kasai with Garg. Kasai relates to a composition and polishing process in which the removal rate is raised. See col. 1, line 65 to col. 2, line 4. In contrast, Garg relates to a composition that can be used which reduces the rate of removal. Therefore, one of ordinary skill in the art would not combine the references because they teach away from each other. That is, one of ordinary skill in the art would not modify Kasai to reduce the removal rate since an object of Kasai is to achieve an increase in removal rate.

In view of the above, it is respectfully submitted that the present invention exhibits superior results, and that the present invention is not taught or suggested by Kasai and Garg.

Accordingly, withdrawal of the foregoing rejection is respectfully requested.

II. Conclusion

In conclusion, the §103 rejection should be overcome, and in view of the above, it is respectfully submitted that the claims are in condition for allowance.

Reconsideration and withdrawal of the rejection is respectfully requested.

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If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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